

HB 285 – Allowing Gray Water

The S.A.V.E. Foundation Supports HB 285: Authorize use of gray water in commercial and multifamily structures.

- This bill allows new opportunity for water conservation and reuse that has historic roots in rural Montana.
- S.A.V.E. applauds DEQ for its work establishing a diverse task force and supports Reinhart's amendment to conditionally exempt gray water from nondegradation
- This bill recognizes that water is a valuable resource that can be better utilized.

Summary:

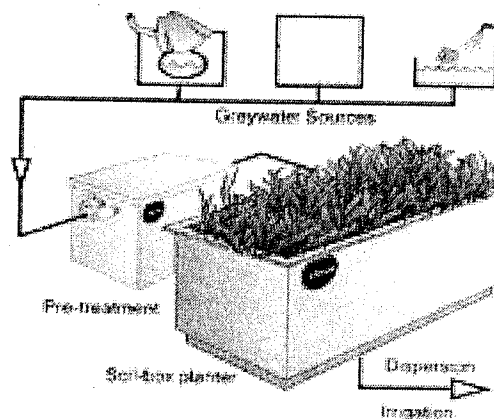
Gray water systems allow homeowners to reuse non-septic wastewater from their homes to flush toilets and water their plants and lawns. An average household is able to reuse 50-80% of their water through a gray water system. This system allows people to conserve water, saving from 30-40% on their water bill, as well.

Water from toilets and kitchen sinks, "black water," will continue to go into the sewer/septic system, and water from all other sources will go into a basic filtration system to remove particles. Once filtered, water can flow back to fill toilet bowls or a sub-irrigation system to water lawns, trees, or other landscaping.

Systems, either home-built or professionally made, are starting to be approved around Montana since becoming legal in October 2007, but will be much more feasible once the rule making process is complete. A gray water system was approved by officials in Bozeman for reuse to flush toilets, including an automatic chlorine treatment component for the gray water that is reused.

Gray Water Basics:

- Was historically commonplace in farms and ranches throughout Montana
- The system used for irrigation will typically be limited to the growing season
- A system used for waste transfer (flushing toilets) can operate year round
- Is an important conservation tool that compliments other investments in water efficiency
- Is not to be used to water plants destined for human consumption
- Is not allowed in homes located in flood plains
- Will be primarily governed by rules allowing for technological advancement in the systems over time.
- Is most likely to be used in new construction or major renovations



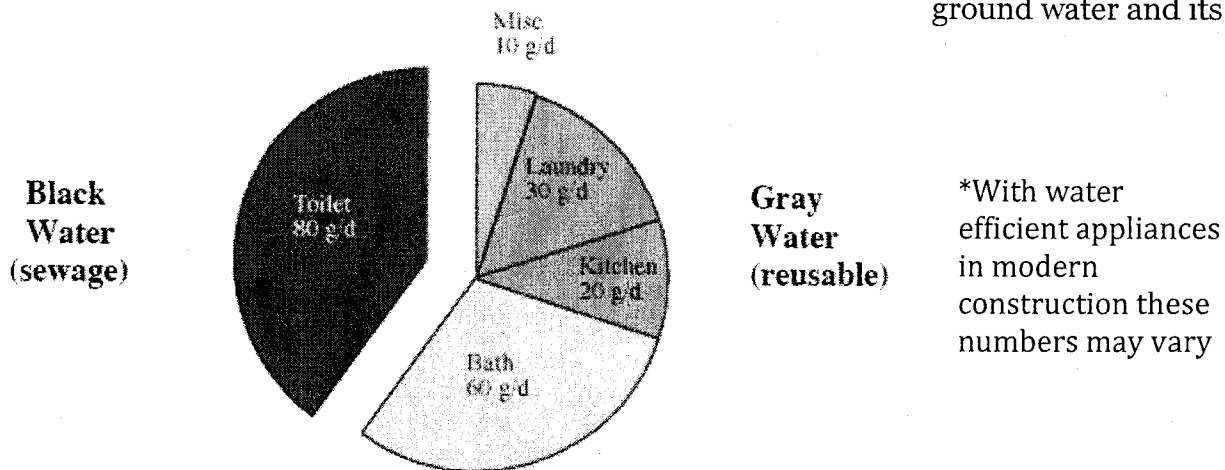
Information provided by The S.A.V.E. Foundation (Student Advocates for Valuing the Environment)
 406.449.6008 / #C5 324 Fuller Ave, Helena, Montana, 59624
 Contact: Matt Elsaesser, Executive Director 406.431.0815

Update on rulemaking process:

HB 259, introduced by Representatives Reinhart and John Ward (Little John's Septic Systems) in 2007 allowed gray water systems for single-family use in Montana and charged the Montana D.E.Q. with developing rules for safe use of gray water. The rule process is now underway and is already considering allowance for gray water use in commercial and multifamily structures. The principles for the systems in any of these types of structures are essentially the same.

Steve Killbreath of Montana Department of Environmental Quality made a draft of the current gray water rules available in October 2008. A stakeholder meeting including representatives from County Sanitation Departments, State Agencies, The S.A.V.E. Foundation, and other citizens was held on November 5, 2008, in order to make comments on these rules. According to these regulations discharge of gray water will be determined by the growing season and appropriate setbacks will be maintained in order to protect ground water and its users.

Average Household Use (gallons per day)



Graph from www.greywater.com

More information:

More than a dozen other states specifically allow gray water reuse. They allow 400 gallon per day systems without requiring any permitting process. As Montana D.E.Q. now carries out the rulemaking, it makes sense to include rules that will address all likely demand, addressing concerns that commercial kitchens would use gray water systems for waste that would be high in oil and food particles. Currently, kitchen waste will be defined as "black water" and seasonal limits are placed on irrigation.

More information on Gray Water at:



SAVEMOBILE.ORG

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GRAY WATER READY FOR REUSE IN MT

One extremely important resource not typically mentioned when it comes to recycling and reuse, is water. The average American uses approximately 80 -100 gallons of water a day in a variety of residential uses. This is an enormous amount of water, especially as water becomes ever more precious in arid and semi-arid regions. In recent years, drought has become a commonplace occurrence; rivers and reservoirs are at historically low levels and restrictions on water's use are becoming more common. It is thus imperative that we find ways to use our water resources in a more efficient and thoughtful manner.

During the 2007 Montana legislative session The S.A.V.E. Foundation was instrumental in the conception, drafting, and passage of an important law to do just that. House Bill 259 legalized the use of gray water in landscape irrigation and will also allow for the use of gray water in toilets. This law pertains primarily to new home construction as existing homes can be very costly and difficult to retrofit with a gray water system. With the passage of this bill Montana joins twelve other states in permitting the use of gray water systems.

What exactly is gray water? Household wastewater has two components: gray water and black water. Gray water is generated from a home's showers, bathtubs, washing machines, dishwashers and bathroom sinks. Black water, on the other hand, is wastewater from toilets, kitchen sinks and washing machine water that was used to clean soiled diapers. Kitchen sink water is classified as black water because of the potential for disease

and contamination from the large amount of food waste present in the water. In the typical home, these two sources of untreated water are combined and sent to a wastewater treatment facility. A gray water system allows that water to be diverted for on-site reuse, directing nutrients to the soil. This in turn limits stress on treatment plants and septic systems.

The Montana law includes safeguards that protect public health. First, gray water is not to be used to water plants destined for human consumption. Second, gray water systems are not permitted in homes located in flood plains. Additionally over the next few months the gray water law will go through the official rule making process. This process will allow for public input as the state Department of Environmental Quality defines the rules regarding gray water.

A properly installed gray water system consists of three distinct elements. First, a separate drain line needs to be dedicated for all gray water sources to separate it from the black water. Next all gray water needs to be collected in a common line that feeds into a filtration device. After treatment and filtration, the water should be used within 24 hours, as storage creates health concerns.

There are many issues an individual should consider before installing a gray water system. Among these considerations are the following: Environmentally, gray water is an excellent green choice for watering trees that shade a home that in turn improve the home's energy efficiency. Due to the acidic nature of gray water, certain plants respond better to gray water than others. A switch to natural detergents containing little or no chemicals would also be a wise choice. Otherwise an additional valve may be needed to separate out products that may be harmful to the home's landscaping. An additional concern occurs in winter as there is the potential for freeze up of a gray water system. The system may need to be shut down during the winter or the gray water limited to use only in the home's toilets.

Gray water reuse is one of the many tools we can use to cut down on our societal thirst for water. While gray water should not be seen as a replacement for other water conservation efforts, it is a vital component in the fight to conserve and protect our waters.

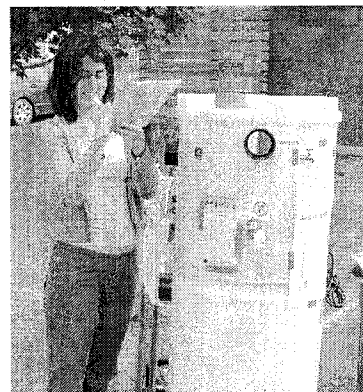
IN THIS ISSUE:

* S.A.V.E. BRINGS GRAY WATER TO MT (PI)

BY GREG LAMBERT



S.A.V.E. Legislative team at the bill signing with Governor Schweitzer making gray water legal in Montana

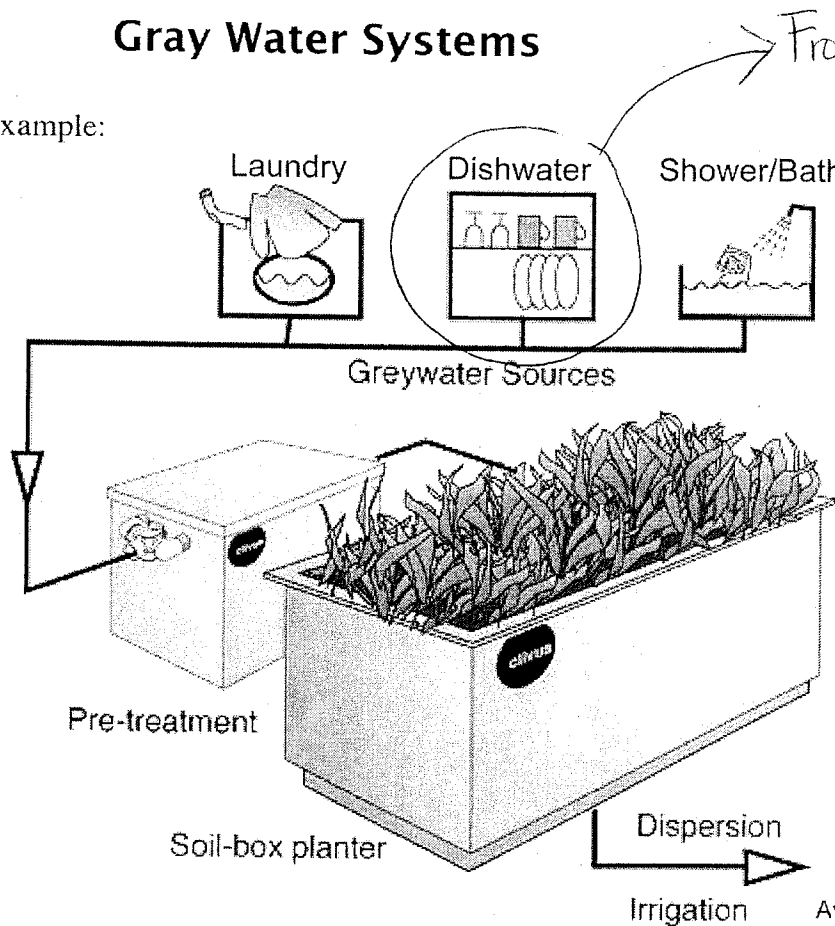


Enthusiastic S.A.V.E. volunteer and engineer Laura Kohlet sets up a gray water display at the 2007 Sustainability Fair in Livingston. Full details about gray water in Montana online at Savemobile.org or call 406.449.6008



Gray Water Systems

One example:



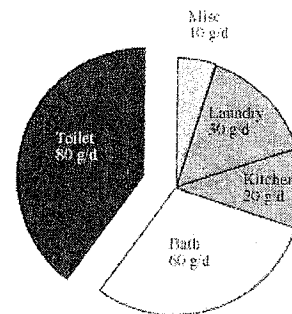
From current rule-making process, kitchen water, including dishwashers, will remain categorized as "black water."

* Gray water can be used for waste transfer, flushing toilets with a chlorine treatment system.

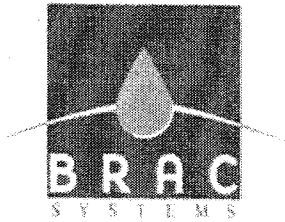
Gray Water systems allow homeowners to reuse non-septic wastewater from their homes to water their plants and lawns.

This system allows people to conserve water, saving from 30%-40% on their water bill. Interested people can install a filtration system in their home to treat water and make it safe for use on plants.

Black Water (sewage)



Gray Water (reusable)



Brac water tank,
the solution to water shortages and
high water bills

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Brac systems

How the system works

So how does the Brac system work?

If you take into account that approximately one third of your water (and of your water tax money) goes down the toilet, wouldn't it be a good idea to do something about it?

The Brac System is the solution. It is composed of patented, state-of-the-art components that filter used water from your shower, bath and laundry(*1), and then reuses it for your toilet's evacuation system.

The recycled water, which we will refer to as grey water, is strictly used for your toilet or for irrigation, and cannot get in your drinking-water system.

Foreign particles are filtered, so it is like using normal water, but without having to pay again, while also doing something effective for the environment.

Furthermore, once integrated into your existing plumbing, the system operates seamlessly, so the only difference you will notice is on your water bill.

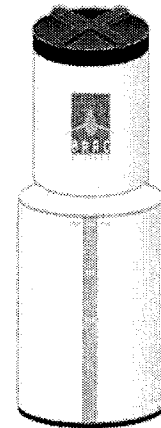
Our Brac Systems are guaranteed for 2 years world wide.

Sketch on how the Brac Systems Work

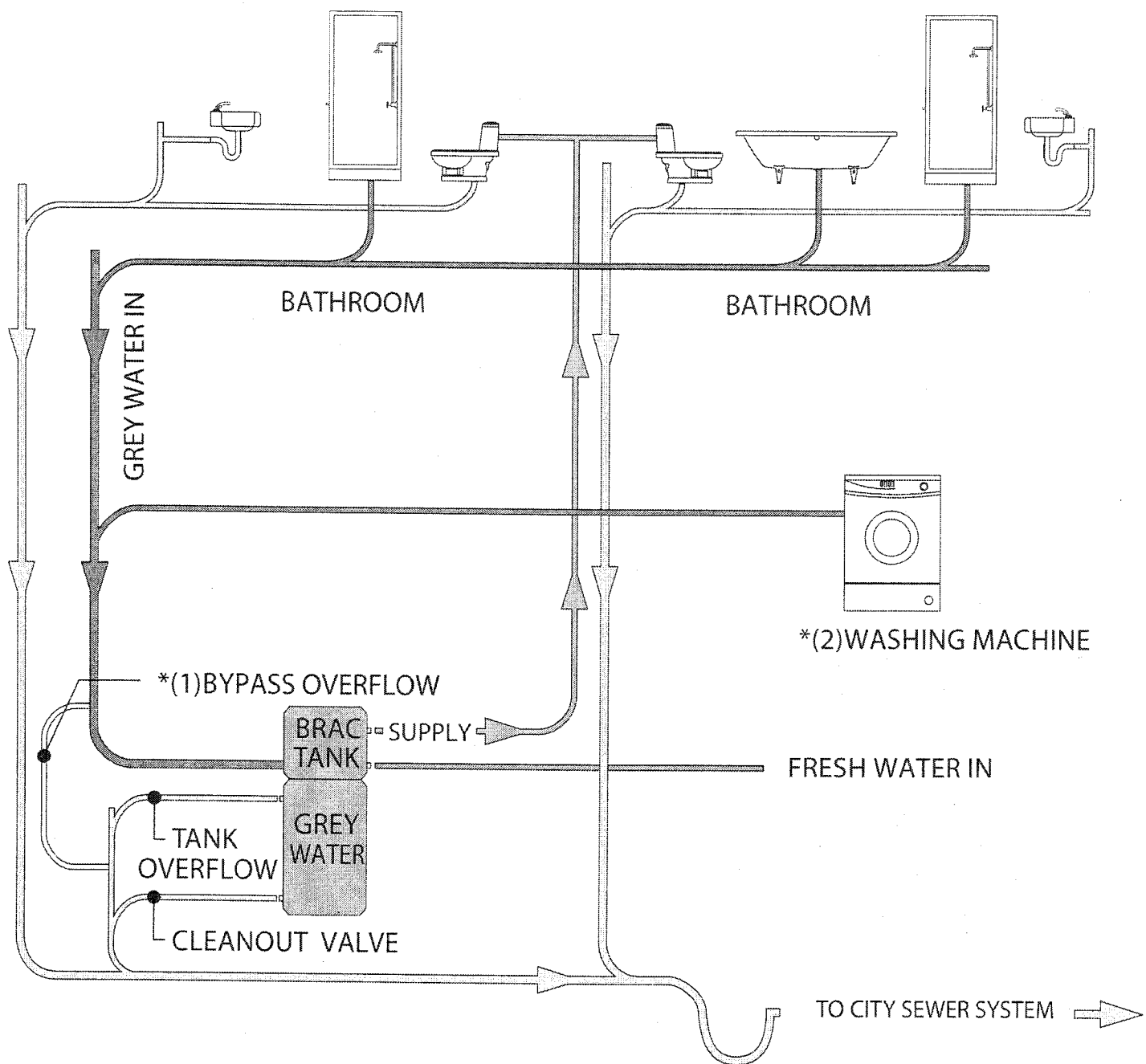
(*1) Inquire with your local plumbing authority for permitted attached devices.



"Water is the essence of life"



RE: HB 285 Gray Water . From Brac Systems.org.



THE BRAC SYSTEMS PLUMBING NETWORK

*(1) All bypasses, piping and components external to the Brac System unit must be installed by a professional plumber and are not supplied by Brac Systems, or Brac Systems representatives or distributors, who are absolved of any responsibility either real or intended.

*(2) Inquire with your local plumbing authority for permitted attached devices.